DoD
AUTOMATIC TEST SYSTEMS
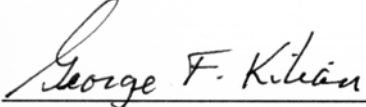# EXECUTIVE DIRECTORATE

DoD AUTOMATIC TEST SYSTEMS
MASTER PLAN

2005

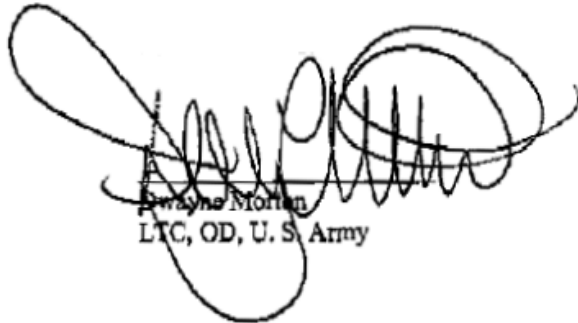# DoD AUTOMATIC TEST SYSTEMS MASTER PLAN
2005

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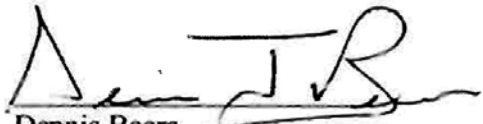

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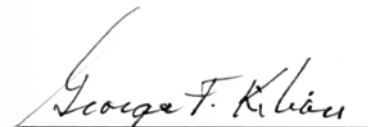
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REFERENCES

(a) USD(AT&L) memorandum of 28 July 2004

(b) DoD ATS Joint MOA among Service Acquisition Executives

(c) OUSD(A&T) memorandum of 2 February 2004

(d) 2004 DoD ATS Selection Process Guide

1.0 Executive Summary

This document provides a consolidated Master Plan for the implementation of the Department of Defense (DoD) Automatic Test System (ATS) acquisition policy and investment strategy. It examines the historical evolution of DoD ATS acquisition management policy; describes the Services' ATS management organizations; identifies the major participants in the DoD ATS management structure; identifies ongoing DoD ATS Research and Development (R&D) planning efforts; and defines the evolving DoD ATS modernization strategy.

The plan elaborates the management processes involved in implementing the DoD ATS procurement policy stated in reference (a) which directs Services to satisfy Automatic Test Equipment (ATE) hardware and software needs by using designated ATS families as the preferred solution or commercial testers that meet defined ATS capabilities. The ATS Master Plan presents established criteria for designating future DoD ATS families and for adding testers to current designated families. It discusses the process for obtaining approval to acquire automatic testers that do not comply with DoD ATS policy and the certification process for the use of commercial testers. It references the tools required for selecting and implementing ATS solutions to satisfy weapon system requirements using the DoD ATS Selection Process Guide.

The ATS Master Plan is published pursuant to the agreement among the Service Acquisition Executives (SAEs) as documented in the Joint Memorandum of Agreement, reference (b). The DoD ATS Executive Directorate (ATS ED) is responsible for reviewing and updating the DoD ATS Master Plan on a regular basis.

2.0 DoD ATS Policy, Goals and Strategy

2.1 Background

A brief history of the significant events that resulted in the present DoD ATS acquisition policy and the establishment of the ATS Executive Directorate and its predecessor ATS Executive Agent (EA) organization is provided below:

29 April 1994: OSD released policy on ATS acquisitions and which stated that DoD components shall satisfy all acquisition needs for ATE hardware and software by using designated ATS families. The memorandum further designated IFTE and CASS as the initial DoD ATS families and specified that commercial off-the-shelf (COTS) testers and components are permitted for use at Depot and Factory levels of maintenance. The memorandum appointed the Navy as the DoD Executive Agent for ATS and requested a coordinated Executive Agent Charter for issuance as a DoD Directive, recommended organizational and funding adjustments to implement this policy, and proposed acquisition changes to be incorporated in DoD Directive 5000.2.

10 June 1994: The Assistant Secretary of the Navy for Research, Development and Acquisition (ASN(RD&A)) issued a memorandum in which ASN(RDA) undertook the assignment as ATS EA and accepted the following responsibilities:

1) definition and management of DoD ATS standards;
2) guiding ATS family product engineering;
3) establishment of ATS R&D requirements;
4) review of ATS specifications and procurements;
5) maintenance of a waiver process for OUSD(A&T); and
6) service as ATS Lead Standardization Activity.

ASN(RDA) appointed the Naval Air Systems Command, Aviation Support Equipment Program Office (PMA-260) as Director of the Executive Agent Office. As required by OUSD(A&T), the Army, Air Force and Marine Corps have assigned ATS Senior Executives who are responsible for ATS management within their Services.

10 January 1997: The DoD ATS Selection Process Guide, (reference (e), was first promulgated to present the processes and procedures to be used by Program Managers (PMs) throughout DoD to select the appropriate ATS solution to meet the testing requirements for their weapon systems. The Guide included software models to assist in the cost benefit analyses and described the policy deviation process to be followed when use of a DoD designated ATS family is not the optimal solution.

6 February 1997: The ATS Executive Agent forwarded to the Component Acquisition Executives a Joint Memorandum of Agreement to document processes and procedures to be used in the acquisition of automatic test systems.

2 February 2004: As a result of a GAO audit of DoD automatic testing, OSD via reference (c) directed that Navy (Naval Air Systems Command PMA260) serve as the DoD ATS Executive Directorate and perform the functions previously performed as the DoD ATS Executive Agent Office.

22 June 2004: In accordance with OSD direction, the Deputy Assistant Secretary of the Navy (Logistics) accepted the role of DoD ATS Executive Director and reiterated that NAVAIR PMA260 will continue the supporting and implementing functions previously discharged as the DoD ATS EAO.

September 2004: The Army, Navy and Air Force Service Acquisition Executives signed the Joint MOA (reference (b)) and agreed to the policies and procedures contained in this ATS Master Plan. The 2004 Joint MOA differs from the 1997 Joint MOA in the following areas:

1. The Service Acquisition Executives acknowledge their responsibility to provide appropriate Research & Development (R&D) resources to support Joint Service test and diagnostics technology efforts
2. The ATS ED is required to publish a coherent DoD-wide R&D program plan that integrates Service ATS R&D efforts

3. The ATS ED and AMB will assist PMs with their ATS decisions, review all ATS acquisitions, and inform Milestone Decision Authorities and Service Acquisition Executives in cases when PMs select a non-policy compliant ATS solution

4. Each Service shall establish an ATS Leadership Office (ALO) charged with primary responsibility for ATS coordination.

5. Proposed acquisitions of COTS test systems must be validated as policy compliant by the AMB. However, the use of designated DoD ATS Families is encouraged to the greatest extent possible to reduce ATS proliferation and life-cycle operations and support costs. When a COTS solution is planned, the acquiring Service should develop a strategy for standardizing on the planned COTS tester.

2.2 DoD ATS Policy

Reference (a) states the following ATS policy: "To minimize the life cycle cost of providing automatic test systems for weapon systems support at DoD field, depot, and manufacturing operations, and to promote joint service automatic test systems interoperability, Program Managers shall use approved DoD ATS Families as the preferred choice to satisfy automatic testing support requirements. Commercial-off-the-Shelf (COTS) solutions that comply with the DoD ATS Technical Architecture should only be used if the Milestone Decision Authority concurs that an approved DoD ATS Family will not satisfy the requirement. Automatic Test System selection shall be based on a cost and benefit analysis over the system life cycle." While this policy was issued via letter, it will be included in the next issuance of DoD 5000.2-R.

The intent of reference (a) is to define an acquisition environment that makes DoD the smartest, most responsive buyer to meet our warfighters' needs while reducing the total cost of ownership. This will be accomplished through the use of ATS Families as the preferred choice to satisfy automatic testing support requirements. An attachment to reference (a) designates the following DoD ATS Families:

- Consolidated Automated Support System (CASS)
- Integrated Family of Test Equipment (IFTE)
- Marine Corps Automatic Test System (MCATES)
- Joint Service Electronic Combat Systems Tester (JSECST)

The objective of the DoD ATS policy is also to minimize unique types of ATS in DoD, thereby reducing redundant ATS non-recurring investments and lessening logistics burdens and long-term costs. By minimizing unique ATS acquisitions through employment of standard family ATS, DoD seeks to leverage its ATS investment assets across the entire DoD establishment.

In accordance with the DoD policy and the Joint Memorandum of Agreement, commercial testers that are not part of designated ATS families may be used when the tester's architecture meets established definitions for critical elements, and the commercial tester provides a more cost beneficial solution than an ATS family tester.

2.3 DoD ATS Goals

The DoD ATS Executive Agent established four main goals for DoD ATS:

2.3.1 Reduce the Total Cost of Ownership of DoD ATS

The primary DoD ATS goal is to reduce the total cost of ownership of DoD ATS. The key to attaining this goal has been stopping the proliferation of unique test systems by standardizing on DoD-designated ATS Families or acquiring "validated" COTS test systems. Additionally, ATS selections are based on a cost and benefit analysis over the complete system life cycle.

2.3.2 Interoperable Joint Services ATS

The flexibility required by the warfighter in modern conflict scenarios requires that the Services attain true interoperability among Automatic Test Systems. The closed architectures of most legacy DoD Automatic Test Systems prohibit interoperability. Additionally, there has been little standardization of instruments, interfaces or software across DoD testers.

2.3.3 Reduce Logistics Footprint

The need to rapidly deploy support along with weapon systems requires that all support systems minimize logistics footprint.

2.3.4 Improve the Quality of Test

Improving the quality of diagnostics and fault isolation will reduce the time required to test, repair and return to service failed systems and components. This will in turn lead to reduced requirements for spares.

2.4 DoD ATS Management Strategy

The DoD ATS Executive Directorate is implementing the four goals through a five-step ATS strategy:

1. Use **designated DoD ATS Families** to reduce total ownership costs.
2. Implement a **DoD ATS Technical Architecture Framework** to serve as the target to which all DoD ATS will evolve
3. Services jointly develop **test technologies** and leverage each other's investments in ATS-related R&D
4. Periodic "snapshot in time" **system-level demonstrations** of the technologies
5. Services execute their own **implementations** of the ATS technologies and the ATS Framework through technology insertions or acquisition of new systems

The ATS ED will publish an update to the ATS Acquisition Handbook to aid the Program Manager who is unfamiliar with automatic testing of electronic systems and the acquisition process for Automatic Test Systems. It's purpose is to provide in a simplified, non-technical format all the information needed to make educated decisions concerning off-system automatic testing of electronic components in the PM's weapon system. The ATS Acquisition Handbook may be downloaded from the ATS ED Web Site at http://www.acq.osd.mil/ats.

2.5 Service ATS Acquisition Strategy

2.5.1 Army ATS Acquisition Strategy

ATS provides a highly mobile, rapidly deployable, general purpose, reconfigurable testing and screening capability for Army weapon systems to maintain their readiness to shoot, move, and communicate. This facilitates the diagnosis and repair of critical components at the Unit of Employment and Unit of Action Forward Maintenance Company (FMC) providing rapid logistical support to legacy and future warfighter combat platforms.

The supported platform's maintainer finds a problem with a weapon system capability and, when available, replaces the defective Line Replaceable Unit (LRU), rapidly returning the platform to its combat/support mission.   The intent of ATS is to diagnose/screen the replaced LRU allowing the soldier to repair the faulty component and return it for issue as needed. Previously, defective equipment was retrograded to a depot or OEM for test and repair. The ATS facilitates forward area rapid repair and availability of critical components, as well as significantly reducing time and expense related to "no evidence of failures" (NEOF).

Current and future Army's ATS programs support Task Force Modularity and Future Combat Systems Units of Action. The Direct Support Electrical System Test Set (DSESTS), originally deployed in the early 1980s, is a system-specific ATS which supports only Abrams and Bradley variants. The Integrated Family of Test Equipment (IFTE) Base Shop Test Facility Version 3 (BSTF(V)3), originally deployed in early 1990s, supports a variety of ground combat systems and limited aviation components. The IFTE BSTF(V)5 (also known as the Electro-Optics Test Facility (EOTF)) currently being fielded provides support to Kiowa OH-58D Mast Mounted Sights and Apache AH-64D electro-optical LRUs at field aviation intermediate maintenance (AVIM) support activities. The IFTE BSTF(V)6, also known as the Next Generation ATS (NGATS), is the latest ATS of the Army's IFTE product line. NGATS is designated as the Army's implementation of the multi-service Agile Rapid Global Combat Support System (ARGCS) Advanced Concept Technology Demonstration (ACTD). NGATS is designated as the "Army Standard" ATS, and will be capable of assuming all current and projected ATS missions.

The spiral development of capabilities will allow the planned incremental replacement of aging ATS experiencing increasing obsolescence issues. The NGATS is IFTE/NxTest/ Joint/DoD compliant and compatible to meet all maintenance levels of fault isolation, (including depot), diagnosis, and repair needs of current systems and FCS. The NGATS design allows the ATS to be linked to Automated Information Systems/Networks in order to communicate critical

maintenance data. The system is designed with backward compatibility to replace DSESTS beginning in FY 08, IFTE BSTF(V)3 in FY11, and IFTE BSTF(V)5 in FY14. This evolutionary strategy will yield one common Army ATS, NGATS, which will be the DoD standard, joint service capable, and will be networked within the Army logistics system to support the US Army's Common Logistics Operating Environment (CLOE).

The Army ATE policy is to minimize the propagation of system-unique ATE and to capitalize on the reduced development costs and long-term operations and support savings afforded by standard ATE. The use of standard ATE is a key enabler in attaining Army XXI personnel goals in the maintenance of electronic and electro-optical system components. The Army policy for new systems or major upgrades to existing systems is:

A. Maximize the use of on-board diagnostics and prognostics (i.e., BIT/BITE and other technologies) in the up front design of weapon systems. Embedded diagnostics and prognostics are tenets of Army XXI and Army After Next. Training and Doctrine Command Systems Managers and Combat Developers will ensure that embedded diagnostics become a part of every Operational Requirements Document. All Army Program/Project Managers and Materiel Developers will assure that they include embedded diagnostics on all new and retrofit equipment and coordinate this with the Product Manager - Test, Measurement and Diagnostics Equipment (PM-TMDE). The Army will not field systems or retrofit equipment without embedded diagnostics. If a tradeoff must be made because of funding, Army policy will be to obtain fewer, more capable systems.

B. Based on the maintenance requirements from a Level of Repair Analysis, use the At Platform Automatic Test Systems (APATS) for unit level ATE, the IFTE Base Shop Test Facility and/or Electro-Optical Test Facility for direct support and general support ATE, and the IFTE Commercial Equivalent Equipment (CEE) for depot ATE.

C. Use IFTE CEE compatible hardware and software as the ATE for contractor logistics support to minimize Army expense at contract conclusion.

Existing waivers to the use of standardized ATE remain in effect. However, developers should plan for bringing legacy systems into compliance with Army ATE objectives when it is cost effective to do so.

The Army vision for the repair of electronic and electro-optic components for Army XXI is standardized ATE, incorporating an open architecture to accommodate technology improvements. The open architecture standards for ATE will be outlined in future Army Technical Architecture revisions.

2.5.2 Navy ATS Acquisition Strategy

The Navy fully embraces the objective of minimizing unique types of ATS to reduce ATS non-recurring investments and lessen operating and support costs.

The Navy's (including Marine Air) ATS acquisition strategy is to build around CASS as the Navy's standard Family of ATE. This policy is published in SECNAVINST 3960.6, OPNAVINST 3960.16, and NAVAIRINST 13630.2D. ATS acquisition are managed centrally by NAVAIR PMA-260 who is responsible for ensuring all Navy acquisition programs follow Navy policy.

It must be noted that the CASS design was initiated in 1986 and began production in 1991. By 2008, the first production CASS stations will have reached a point where wear and obsolete components (CASS is 85% COTS) will drive untenable ownership costs. Working with the DoD ATS Executive Directorate, the Navy has begun its CASS modernization planning which will be based on the next generation test technologies called Next Test (NxTest). The Navy is embracing the Agile Rapid Global Combat Support (ARGCS) Advance Concept Technology Demonstration (ACTD) project, a cooperative development program with the Army, USMC, Air Force to demonstrate an implementation of the set of NxTest technologies.

Navy ATS selection decisions will be based on objective analytical analysis using the System Synthesis Model Plus (SSM+). Per Navy policy, the first priority in selecting a tester for a given requirement will be to use one of the standard Navy ATS Families. If the need cannot be satisfied by one of these Families or a variant of the Family, other DoD Families such as IFTE will be the next choice. COTS testers will be used when cost beneficial per DoD policy. New design ATE will be an alternative of final resort only.

The Navy will fully support implementation of ATS ED-approved ATS critical elements and specifications.

The Navy will encourage programs to use field (Intermediate and Organizational level) testers in the factory test environment.

2.5.3 Air Force ATS Acquisition Strategy

The Air Force recognizes the need to adopt a Standard Tester. While the resources to do this have been budgeted, the AF will take interim measures to reduce ATS proliferation. AF will develop criteria based on most of the criteria to become a standard family tester as well as the DoD Information Technology Standards and Profile Registry (DISR) standards. This will be done via a competition. The tester(s) which meet or exceed the criteria will be placed on an Indefinite Delivery, Indefinite Quantity (IDIQ) type contracts which will allow program offices to easily buy the tester(s), Test Program Set (TPS) development/production, as well as adapt the tester to specific program needs.

A life cycle cost analysis using the SSM+ model will be performed for any proposed procurement choosing not to use a Standard Family Tester or Interim Standard Tester. This analysis must show a distinct advantage of using the non-standard tester for the procurement to proceed. Procurements which do not use a Standard Family Tester or an Interim Tester shall obtain an approved deviation prior to program start.

Procurement of COTS testers is allowed. A Commercial Tester Acquisition Validation Request (CTAVR) must be approved prior to procurement of a COTS tester. FAR 2.101 is used to define COTS. All procurements will include mandated DISR standards or obtain a deviation.

2.5.4 Ground USMC ATS Acquisition Strategy

The Ground USMC ATS policy objective is to minimize unique types of ATS and make a standard suite of ATS available to support USMC weapon systems. This ATS suite covers all echelons of Ground Marine maintenance and is referred to as the Marine Corps Automatic Test Equipment Systems (MCATES). ATS acquisition is centrally managed by the Program Manager for Test Measurement and Diagnostic Equipment (PM-TMDE, MARCORSYSCOM PMM-161). An ATS policy is in force that requires all programs to base their support primarily on MCATES unless an analysis shows that an alternative ATS provides a more economical solution. Where feasible PM TMDE will promote the use of DoD designated families. Existing waivers to the use of standardized ATE remain in effect. However, ground system program managers should plan to bring legacy systems into compliance with Marine Corps ATS policy when it is cost effective.   Any alternative ATS solution must address compatibility with the current standard ATS and procurement approval obtained from PM-TMDE.

The concept of an open architecture is critical to future evolutions of ATS. The USMC's goal is to apply open architecture standards on all technology improvements to MCATES and focus on compatibility with DoD ATS families as ATS evolves.

3.0 Management of DoD ATS

In reference (b), the Army, Navy and Air Force Service Acquisition Executives agreed to:
(1) Ensure compliance with DoD ATS policy and provide Service-specific policy for acquisition of ATS
(2) Provide appropriate Service representatives to serve on the ATS Management Board and on its various Integrated Product Teams, and
(3) Provide appropriate Research and Development (R&D) resources to support Joint Service test and diagnostics technology R&D efforts.

3.1 ATS ED Organization

The DoD ATS Organization is graphically depicted in Figure 1.

OSD
(AT&L)

Service Acquisition Executives

ATS Executive Director — Navy (RD&A)

ATS Executive Directorate — Navy NAVAIR PMA260

ATS Management Board — Navy AMB Principal/ AMB Chair | USAF AMB Principal | Army AMB Principal | Ground USMC AMB Principal

DoD ATS Dep Director (PMA-260ATS) | USN ATS Leadership Office | USAF ATS Leadership Office | Army ATS Leadership Office | Ground USMC ATS Leader-ship Office

ATS IPTs — TPS Standardization | NxTest | ATS Processes

Figure 1: DoD ATS Organization

3.1.1 ATS Executive Directorate

Among other things, the ATS ED is responsible for overall coordination of ATS policy implementation among the Services. Specific tasks assigned by OSD and the Service Acquisition Executives include:

(1) Sponsor and serve as chair of the ATS Management Board (AMB)

(2) Develop and publish, with AMB concurrence, a strategic plan for DoD ATS

(3) Establish and charter Integrated Product Teams and Working Groups as necessary

(4) Develop and publish, with AMB concurrence, a coherent DoD-wide R&D program plan that integrates Service ATS R&D efforts

(5) Approve and implement, with AMB concurrence, ATS interface specifications and rules, and coordinate their inclusion in the DoD Joint Technical Architecture through membership in the Joint Technical Architecture Development Group

(6) Serve as the DoD designated voting member on IEEE's Standards Coordinating Committee 20

(7) Serve as DoD's representative to industry consortia and foundations such as the Interchangeable Virtual Instrument Foundation, the National Defense Industrial Association Automatic Testing Committee, and the Test and Diagnostics Consortium

(8) Make acquisition recommendations to Service Program Managers (PMs) and Milestone Decision Authorities (MDAs), and inform MDAs and Service Acquisition Executives in cases when PMs select a non-policy compliant ATS solution

(9) Assist DoD Program Managers by developing, in conjunction with the AMB, and publishing decision-making tools such as the DoD ATS Master Plan, the DoD ATS Selection Process Guide and the DoD ATS Handbook

(10) Approve, with AMB concurrence, ATS Family designation requests and designate new ATS Families.

3.1.2 ATS Management Board

The O-6 level ATS Management Board (AMB) is a joint-Service board comprised of representatives from the Army (PM-TMDE), Air Force (542 ATSG/CC), Marine Corps (MARCORSYSCOM (PMM-161, PM TMDE)), and Navy (NAVAIRSYSCOM, PMA-260). Chaired by the Director of the ATS ED, the AMB provides advice and recommendations to the ATS ED and to Weapon System Program Managers and IPTs (WIPTs). The AMB also reviews policy deviation requests and commercial tester acquisition validation requests, and provides recommendations to the appropriate decision authority. The AMB will:

(1) Provide advice and recommendations to the SAEs, MDAs, PMs and weapon system Integrated Product Teams (WIPTs) on ATS matters

(2) Define, coordinate and manage DoD ATS acquisition and oversight processes

(3) Perform ATS analyses and coordinate Joint Service ATS actions including sponsoring Joint ATS R&D initiatives

(4) Develop and implement processes as required to support DoD's ATS policies, and assist the Executive Director in developing tools to assist DoD PMs with ATS-related decisions

(5) Monitor ATS policy compliance by reviewing ATS acquisitions and modernization planning

(6) Define the criteria for new ATS Families and review ATS Family designation requests

3.1.3 Integrated Product Teams

Several IPTs have been established under the ED and AMB to carry out the main technical functions of the ATS ED. Key points of contact within the ATS ED and each Service ATS organization are provided in Attachment (1) and are available to assist and advise WIPTs on these processes.

Presently, there are three IPTs serving under the auspices of the ATS ED:

3.1.3.1 NxTest IPT

The Next Generation (NxTest) IPT serves as the Joint Services ATS Technology Team. Its purpose is two-fold: First, to define the elements that contribute to achieving DoD's ATS goals, and to structure and evolve a generic ATS technical architecture framework to achieve these goals. The ATS technical architecture framework must support new test needs and permit

flexible insertion of updates and new technology with minimum impact on existing ATS components. The second purpose of the NxTest IPT is to define, develop, demonstrate and plan implementation of emerging test technologies into the DoD maintenance test environment. The principal members of the NxTest IPT are Navy (NAWC AD 4.8, NxTest Team Leader), Army (TACOM-ARDEC), USAF (542 ATSG/CC) and USMC (MARCORSYSCOM PMM161, PM TMDE).

The ATS Research and Development IPT (ARI), which originally developed the ATS Architecture Framework, was merged into the NxTest IPT in 2002. As a working group under the NxTest IPT, the ARI focuses on continuing development of the ATS architecture framework to support ATS convergence, TPS transportability, and elimination of the requirement for Service-unique ATS. The ARI has defined elements of the architecture framework as hardware and software components, interfaces between components, information models for required data entities and data relationships, and rules and processes for describing how components, interfaces and information models must interact. The ARI Steering Committee is chaired by Navy (NAWC AD Lakehurst), and includes members from USAF (542 ATSG/AT), Army (PM TMDE), and USMC (MARCORSYSCOM PM TMDE and ATSU BC MCLB). In 2002, the ARI was merged into the NxTest IPT.

3.1.3.2 TPS Standardization IPT

The ATS TPS Standardization IPT is chartered to review TPS acquisition procedures. It developed a TPS performance specification, MIL-PERF-32070, which is currently in use across all the Services. This IPT is chaired by Navy (NAWC AD Lakehurst), and includes members from USAF (542 ATSG/AT, Army (PM TMDE), and USMC (ATSU BC MCLB).

3.1.3.3 ATS Processes IPT

The ATS Processes IPT is responsible for developing ATS acquisition processes and procedures. It develops and updates the ATS Master Plan and ATS Selection Process Guide. The IPT is chaired by Navy (NAVAIR PMA260) and membership includes representatives from USAF (542 ATSG/AT), Army (PM TMDE), and USMC (MARCORSYSCOM PM TMDE).

3.1.3 Service Program Managers and Program Executive Officers

Per direction of the Service Acquisition Executives in reference (b), PMs and PEOs will:

(1) Comply with OSD and Service ATE/ATS-related policy when acquiring and modernizing automatic test systems, and
(2) Develop cost and benefit analyses over the system life cycle upon which to base any ATS selection.

3.1.4 Service ATS Leadership Offices

Each Service has established an ATS Leadership Office (ALO) with oversight of their Service's implementation of the ATS policy and primary responsibility for ATS coordination. The ALO has the lead for coordinating Joint Service projects and is represented on the various ATS IPTs, including Joint Service R&D IPTs and working groups. These organizations include subject matter experts in the areas of the ATS selection process, preparation of Cost Benefit Analyses (CBAs), TPS acquisition, and ATS capabilities. The office ensures that ATS policy and related procedures are promulgated throughout their Service, provides assistance to weapon system PMs and IPTs in ATS matters, and monitors acquisition and modernization planning for policy compliance. The ALO processes ATS policy deviation requests and forwards them to the AMB.

3.2 Service Organizations

ATS management functions required to implement the DoD ATS policy discussed above are performed by the following Service organizations:

3.2.1 Army Organization

Current Army ATS Management Structure
(AR 750-43, November 2004)
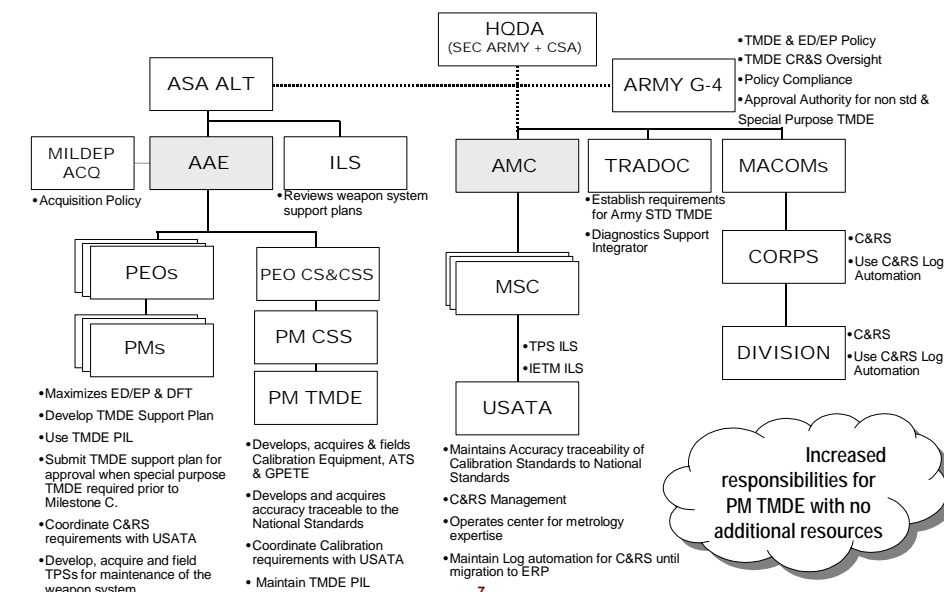
The Department of the Army (DA) focal point for TMDE policy is the Deputy Chief of Staff (DCS), G-4. To aid in the effective development, distribution, calibration repair, funding, and modernization of all TMDE, a total Army centralized management structure under HQDA has been established.

The Commanding General (CG), United States Army Material Command (USAMC), as the national sustainment maintenance manager for the Army, will lead the TMDE program. The CG, USAMC and the Army Acquisition Executive (AAE) are the principle agents for executing

Army TMDE policy and programs. In the management structure depicted above, each agent is designated authority to recommend TMDE policy to HQDA and to plan, program, budget, acquire, deploy, sustain, and otherwise manage DA TMDE functions within their assigned areas of responsibility. To facilitate effective execution of the Army TMDE mission, the Army designated the following organizations as key for execution of Army TMDE policy:

     (1) Training and Doctrine Command (TRADOC)
     (2) PEOs, program managers, and product managers
     (3) United States Army TMDE Activity (USATA)
     (4) The Army TMDE Product Manager
     (5) Army Material Command (AMC) Major Subordinate Commands (MSCs)
     (6) The MACOMs and subordinates are the users of the TMDE

The TMDE Product Manager, under the direction of the AAE, will maintain an automatic test system (ATS) program to:

     (1) Manage the Army standard ATE family and acquisition of standard ATE.
     (2) As part of the standard ATE family, develop and maintain a standard at-platform tester to enhance readiness and support Army IETMs requirements.
     (3) As part of the standard ATE family, develop and maintain a standard off-platform tester to enhance readiness and reduce the logistics footprint.
     (4) Maintain an active research and development program to promote an ATE system architecture and incorporate commercial standards into the Army ATE environment as needed.
     (5) Provide assistance to Army material developers in their efforts to employ the Army standard ATE in support of their systems.
     (6) Interface with the other services in a continuous effort to achieve maximum beneficial interservice standardization.

3.2.2 Navy Organization

The intra-Navy forum for management of Navy ATS issues is the Navy Test and Monitoring Systems (TAMS) Executive Board (EB) which is chaired by the Naval Sea Systems Command (NAVSEA 04). NAVSEA is the lead Systems Command for TAMS. The Naval Air Systems Command (NAVAIR) was designated as ATE Lead Systems Command by NAVSEA. NAVAIR (PMA-260) is a member of the TAMS EB. The TAMS Executive Board has chartered an Automatic Test & Diagnostics Standing Committee (ATDSC) for the purpose of reviewing NAVAIR, NAVSEA, SPAWAR, MARCORSYSCOM, and DIRSSP ATE and TPS management processes. The TAMS ATDSC is responsible for recommending process improvements to the TAMS Executive Board. The ATDSC is chaired by the Naval Air Systems Command Deputy Program Manager for Avionics Support Equipment (PMA-260D). Membership is comprised of ATS managers from NAVSEA, SPAWAR, MARCORSYSCOM, DIRSSP, and the ATS ED.

Within the Navy, ATS is divided into two groups: common ATS applicable to multiple weapons systems, and peculiar ATS applicable to a single weapon system. Primary acquisition responsibility for peculiar ATS lies with the appropriate weapon system PEO and PM. The primary acquisition manager for common ATS within the Navy is NAVAIR (PMA-260). The

responsibility for integrating the total Navy ATS program lies with NAVAIR (PMA-260) in coordination with NAVSEA for NAVSEA/DIRSSP programs, SPAWAR for space and warfare programs, and MARCORSYSCOM for Marine Corps non-aviation programs.

3.2.3 Air Force Organization

All Air Force program authority, including that for acquisition of ATS, lies with the Designated Acquisition Commanders (DACs)/Program Executive Officers (PEOs), and the individual weapon system System Program Directors (SPDs). Under the Integrated Weapon System Management concept, SPDs are totally responsible and accountable for their weapon systems from cradle to grave. Accordingly, the SPDs are empowered to exercise total control over their weapon system funding, including that for ATS in support of their weapon systems.

The ATS Product Group Manager (PGM) at 542 ATSG/CC is the Air Force Single Manager for ATS. The ATS PGM's role is to manage all common as well as some weapon system unique Air Force ATS, and to provide ATS requirements definition, acquisition, and sustainment support to SPDs with ATS requirements. The ATS PGM is accountable to the DAC at SA-ALC/CC for program execution and the Air Force Senior Acquisition Executive (SAE) at SAF/AQ for policy implementation. The ATS PGM is the Air Force member of the ATS Management Board (AMB).

3.2.4 Marine Corps Organization

The Marine Corps Systems Command (MARCORSYSCOM) is responsible for the acquisition of weapon systems used by non-aviation Fleet Marine Forces. MARCORSYSCOM Program Managers are assigned the primary responsibility for weapon system acquisition, including any special purpose test equipment. MARCORSYSCOM PMM-161 (PM TMDE) is responsible for the procurement and life cycle management of General Purpose Electronic Test Equipment, to include Automatic, Electronic, Electro-Optical and Mechanical test equipment. TMDE provides the Logistic Element Manager (LEM) functions and test equipment support recommendations for every system that MARCORSYSCOM procures. TMDE has recently been given the responsibility for developing TPSs for fielded systems where the implemented support concept needs to be upgraded with ATE support. The TMDE LEM function also provides technical assistance in the validation of requirements for Special Purpose Test Equipment. Classic examples are dedicated test sets, special tools and TPSs. NAVAIR manages all Marine Corps ATS requirements for aviation maintenance.

4.0 DoD ATS Families

An ATS family consists of ATSs that are interoperable and have the capability to support a variety of weapon system test requirements through flexible hardware and software architectures. These structures permit addition or expansion of testing capability with minimal impact to the ATS logistics support profile, system software, and Test Program Sets (TPSs).

DoD has promulgated its policy that the Services' acquisition needs for ATE hardware and software will be satisfied by using designated ATS families or commercial components that meet defined critical elements. An attachment to reference (a) designates the following DoD ATS families:
- Consolidated Automated Support System (CASS)
- Integrated Family of Test Equipment (IFTE)
- Marine Corps Automatic Test System (MCATES)
- Joint Service Electronic Combat Systems Tester (JSECST)

4.1 Consolidated Automated Support System (CASS)

The Consolidated Automated Support System was developed by the Naval Air Systems Command as the Navy standard ATE for intermediate, depot and factory level support both ashore and afloat of all Navy electronics from aircraft to ships and submarines. The basic CASS configurations are as follows:

1) Hybrid (HYB);
2) Radio Frequency (RF);
3) Communications, Navigation, and Identification (CNI);
4) Electro-Optical (EO);and
5) Reconfigurable Transportable CASS (RT-CASS).

The CASS Hybrid station provides the core test capability for general purpose electronics, computers, instruments, and flight controls. The RF station provides Hybrid station test capability plus ECM, ECCM, EW Support Measures, Fire Control Radar, Navigation Radar, Tracking Radar, Surveillance Radar, and Radar Altimeter support capability. The CNI station provides all RF station capability plus communication, navigation, and spread spectrum system support capability. The EO station provides Hybrid station test capability plus support capability for Forward Looking Infrared (FLIR), Lasers/Designators, Laser Range Finders, and Visual Systems. RTCASS provides a portable CASS configuration using COTS hardware and software which is compatible with mainframe CASS to meet V-22 support requirements as well as replace mainframe CASS stations at USMC fixed wing aircraft (EA-6B, F/A-18 and AV-8B) support sites. For further information on CASS station test capabilities, see http://www.acq.osd.mil/ats.

The 613th and final mainframe CASS station was delivered in December 2003. RTCASS production began in 2004 and will continue through 2010.   When production is complete, Navy will have acquired over 700 mainframe and RT CASS stations.

Test Program Sets (TPSs) are being delivered for both new requirements and off-load of legacy ATE such as ATS(V1), CAT IIID, HTS, AAM60, HATS, TMV, etc. As of the end of FY04, over 1600 CASS TPSs have been delivered. The current total inventory objective for CASS TPSs is over 3300.

The CASS design was initiated in 1986 and began production in 1991. By 2007, the first production CASS stations will have reached a point where wear and obsolete components

(CASS is 85% COTS) will drive untenable ownership costs. Working with the DoD ATS Executive Directorate, the Navy has begun its CASS modernization planning based on the NxTest test technologies featuring a completely open architecture, integrated diagnostics concepts, and state-of-the-art instrument functionality using Synthetic Instruments. It is anticipated that size, complexity, acquisition cost, and life cycle support costs will be significantly lower than with current CASS stations.

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4.2 Integrated Family of Test Equipment (IFTE)

The Integrated Family of Test Equipment has evolved as the Army's standard ATS for support of all weapon systems. The IFTE family includes Off-Platform ATS (OPATS) and At-Platform ATS (APATS). The OPATS includes the Base Shop Test Station (BSTS) and Base Shop Test Facility (BSTF), the Electronic Repair Shelter (ERS), the Commercial Equivalent Equipment (CEE), the Air Force developed Electronic Systems Test Set (ESTS) (formerly the F-15 Down Sized Tester (DST)), and associated TPSs. The APATS includes the SPORT and MSD.   IFTE provides a vertically integrated ATS capability for factory, depot, general support, direct support and intermediate levels of maintenance.

4.2.1 IFTE Off-Platform Testers

The Base Shop Test Station (BSTS) and Base Shop Test Facility (BSTF) have been in production since 1989 and the CEE has been in production since 1988. Through FY04, 103 BSTF/BSTSs Verson 3, 28 BSTF/BSTS Version 5, 48 CEEs, and 16 ERSs have been procured. The BSTS and CEE procurements are based on weapon system support requirements and depot sustainment needs. The BSTF(V)3,CEE and ERS are out of production and in sustainment. Currently the BSTF Versons 4 and 5, commonly known as Electro-Optics Test Station (EOTS) and Electro-Optics Test Facility respectively, are being procured. Based on current requirements, there will be up to 44 EOTFs procured by FY 08. The newest OPATS member of the IFTE family is the BSTF Version 6, commonly known as the Next Generation ATS (NGATS). The NGATS is currently under development to replace the DSESTS, BSTF(V)3, BSTF(4), and BSTF(V)5.

The BSTFs are used for testing weapon system Line Replaceable Units (LRUs) in the field at Direct Support/General Support locations, supporting TPS developers, and fulfilling

training requirements for the soldier. The BSTS provides support to TPS developers and fulfills training requirements for the soldier. The CEE is used for LRU and Shop Replaceable Unit (SRU) TPS development, for depot level maintenance programs, and as factory test equipment.

The ESTS is a VXI-based architecture general purpose tester. Originally developed to test F-15 LRUs, applications are planned to expand the DST to include other weapon and avionics systems. The ESTS is a self-contained, mobile, modular, intermediate level test system which is deployable.

Through the Second Quarter FY05, there have been 92 different field level weapon system TPSs developed with 4 new TPSs for Apache AH-64D scheduled for fielding this year and 26 next year. There have been 64 BSTF Version 3's and 14 Version 5's fielded to date with an additional 390 depot and factory level TPSs.

The EOTS/EOTF is based on the CASS EO Subsystem and is to assume the test and repair mission for all Army Electro-optics requirements including aviation and ground systems. There are currently three Kiowa Warrior EO TPSs developed and seven Apache EO TPSs under development expected to field in Oct 05.

The Electronic Repair Shelter (ERS) is a tactical and mobile electronic repair facility designed to provide capability to screen, fault isolate, and repair printed circuit boards (PCB) from line replaceable and shop replaceable units, and selected other PCBs in the field. The program began in April 1995 and the first three production units were fielded in Fourth Quarter, FY98. Procurement of ERS is completed and it is in sustainment. Over 450 new and converted TPS requirements have been identified for which LRUs and SRUs will be supported, through test and/or repair, by the ERS operators.

4.2.2 IFTE At Platform Automatic Test Systems

The initial production contract for IFTE At Platform Automatic Test Systems (APATS) started in the early 90s. These testers are being procured continuously every five years to keep pace with the rapid advancement of commercial computer technology. In addition, each contract has a technology insertion clause so that they can be upgraded incrementally. The IFTE APATS program will continue to support, current and future Army, tri-service, and Foreign Material Sale (FMS) requirements. Also, APATS is the Army's enabler for the weapon systems' diagnostics and maintenance data to the automated logistics systems such as GCSS-A.

Per the Basis Of Issue Plan P069AA, the Army requirement for the APATS is over 35,000. Due to the rapid improvement in computer technology, the first and second generations of APATS called Contact Test Sets (CTS) and Soldier's Portable On System Repair Tool (SPORT) respectively are considered obsolete and are currently being replaced. Approximately 9,000 of the third generation called Maintenance Support Device (MSD) have been fielded to support the Army, Air Force, Navy, Homeland Defense, and FMS requirements. The fourth generation called Maintenance Support Device – Version 2 (MSD-V2) is scheduled for fielding in 1QFY06 from a new contract with a total contract ceiling quantity of approximately 35,000.

All IFTE APATS are procured with the open architecture using COTS operating systems (Windows 3.1 for the CTS, Windows 95 for the SPORT, Windows 2000 for the MSD, and Windows XP for the MSD-V2). While the CTS uses COTS ISA-sized instrumentation cards, the SPORT, MSD, and MSD-V2 use COTS PCMCIA instrumentation cards. MSD-V2 is multiple times faster in performance than the and SPORT and CTS and has added capabilities including wireless communication, Digital Versatile Disc writer, and color sunlight readable display.

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4.3 Marine Corps Automatic Test Systems (MCATES)

On 21 October 1998 the DoD ATS Executive Agent approved the USMC's Marine Corps Automatic Test Systems (MCATES) as a new DoD ATS Family with the Third Echelon Test Set (TETS), AN/USM-657, being the basic family member within MCATES. The USMC has developed TETS to provide a capability to test, diagnose, and screen a wide variety of electronic and electro-mechanical units at the ground forces third echelon maintenance level. TETS also functions as stand-alone General Purpose Electronic Test Equipment (GPETE), allowing the operator maximum usage of all TETS assets. TETS supports testing of analog, hybrid, and digital technologies and includes both a basic and RF configuration. TETS has been designed to function at the intermediate maintenance level from the tailgate of a High Mobility Multipurpose Wheeled Vehicle (HMMWV). The four TETS configurations are:
1. AN/USM-657 (V)1, Core System
2. AN/USM-657 (V)2, RF
3. AN/USM-657 (V)3, E/O
4. AN/USM-657 (V)4, HMV

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4.4 Joint Services Electronic Combat System Tester (JSECST)

The **Joint Services Electronic Combat System Tester** is an Acquisition Category (ACAT) III flightline end-to end Electronic Countermeasures O level tester capable of verifying system status and fault isolation. Capabilities include threat representative simulations and technique/signal response analysis. JSECST (AN/USM-670) is a Joint USAF-USN program built to work with multiple Navy, USAF, Army and Marine platforms.   A competitive acquisition contract was awarded to AAI Corporation in March 1996.   Development has been completed for Air Force F-15, F-16 and A-10 aircraft test program sets as well as Navy F/A-18 aircraft. Since completion of production in March 2005, JSECST hardware and software is being sustained by WR-ALC/LS to support Air Force, Navy, Army and Marine users. The total DOD acquisition quantity includes 121 Core Test Sets for Air Force and 125 for Navy as well as JSECST core test sets for USMC and Army.   Sustainment of hardware is provided through a Joint Performance Based Logistics Contract with AAI, Hunt Valley, MD. Software sustainment is provided through WR-ALC/LSELE.

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4.5 Criteria for Adding New ATS Families/New Members

New ATS families may be added to the DoD inventory of ATS families if they meet the following criteria as established by the reference (b) Joint Services Memorandum of Agreement:

1) the tester must be capable of supporting multiple weapon system test requirements and there must be planning in place for implementation as such;

2) the tester must have flexible hardware and software architectures which are expandable and tailorable with minimal impact to existing logistic support profiles and TPSs;

3) the tester must provide a capability to satisfy a Service performance or operational requirement that cannot be accommodated within the existing DoD ATS family structure;

4) the tester must provide a more cost effective/beneficial ATS solution than use or modification of an existing DoD family member; and

5) the tester must be re-procurable and must have a dedicated management office that has a process in place to ensure:
- long term tester viability is maintained; and
- the tester will evolve to satisfy future support requirements.

In general, new ATE may be added to an existing DoD ATS family if they meet the following criteria:

1) the criteria specified above for designation of new ATS families; and

2) the tester must contain the critical hardware and software elements to ensure TPS interoperability between the proposed ATE and the parent designated ATS family.

New ATS requirements that cannot presently be met by ATS family members can still fit within the guidelines of the new DoD ATS policy and be approved for acquisition if they fall into the following categories:

1) modifications to existing inventory ATE that do not involve increasing the UUT test capability of the ATS;

2) validated commercial testers (see paragraph 5.2);

3) TPS reprocurement actions for use with non-family ATS; and

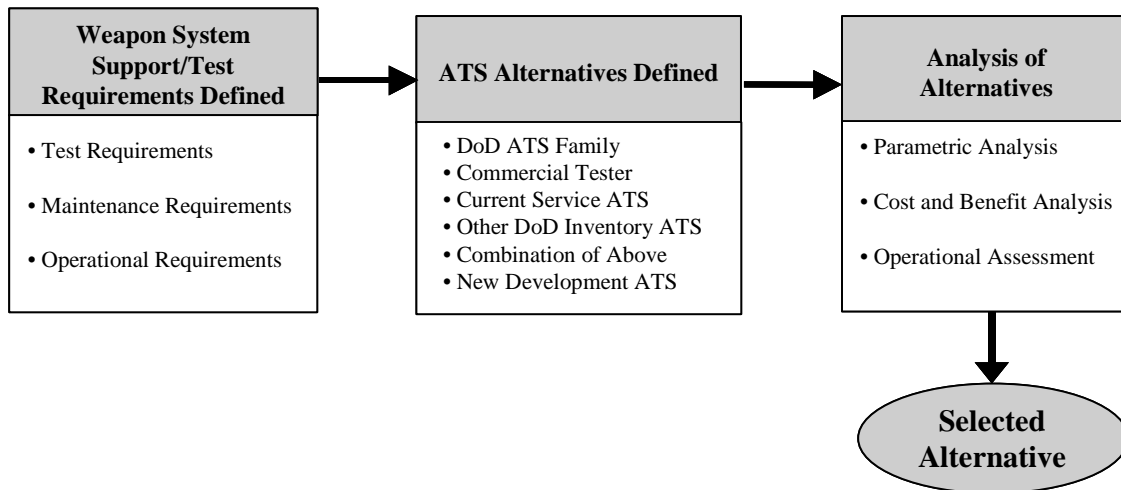4) approved ATS policy deviations (see paragraph 5.1).

PMs should use the approach described in reference (d), the DoD ATS Selection Process Guide, to analyze and select ATS solutions for weapon system support requirements. The selection technique presented is summarized in section 5 below and is compliant with the intent of DoD ATS acquisition policy. ATS selection procedures for analyzing prospective ATS requirements with the objective of minimizing the proliferation of unique weapon system ATS are introduced in that document.

5.0 ATS Selection Analysis Process

The DoD ATS Selection Process Guide (reference (d)) promulgates a standardized ATS selection process as an effective method for PMs to select ATS that complies with the research, development, and acquisition objectives established by OUSD(A&T) in DoD Regulation 5000.2-R and in reference (a). As shown in Figure 2, this Service-level ATS selection analysis process involves the following steps:

1) identify the weapons system support/test requirements;

2) define the various support/test alternatives;

3) analyze the alternatives; and

4) select the appropriate ATS support alternative.

The Selection Process Guide provides the procedures to be used by DoD PMs to implement the requirements of reference (a) with regard to ATS selection. It presents the process for preparing requests for deviation from the policy when the selection process yields a non-family ATS solution. PMs may obtain assistance and advice on the processes contained therein from their Service's AMB member.

Weapon System Support/Test Requirements Defined	**ATS Alternatives Defined**	**Analysis of Alternatives**
• Test Requirements • Maintenance Requirements • Operational Requirements	• DoD ATS Family • Commercial Tester • Current Service ATS • Other DoD Inventory ATS • Combination of Above • New Development ATS	• Parametric Analysis • Cost and Benefit Analysis • Operational Assessment

Selected Alternative

Figure 2: ATS Selection Process

The principal purpose of the process contained in the DoD ATS Selection Process Guide is to enable the Services to make an ATS selection for each requirement that fits within the total DoD investment strategy context, i.e., the costs incurred are to be leveraged to the maximum extent possible within a Service and/or across the Joint Services spectrum. To define and select support alternatives according to the established policy, the following hierarchy of ATS alternative solutions is provided:

1) use of a DoD designated ATS Family tester;

2) procurement of a commercial tester (approved Commercial Tester Acquisition Validation Request is required);

3) application of a current weapon system/Service ATS (approved Policy Deviation Request is required);

4) application of other DoD inventory ATS (approved Policy Deviation Request is required);

5) development of a new ATS (approved Policy Deviation Request is required).

DoD ATS policy requires that the selection shall be based on a cost and benefit analysis that ensures that the ATS chosen is the most beneficial to the DoD over the system life cycle.

5.1 Policy Deviation Process

ATS Policy Deviation Requests are required prior to any acquisition or modification of ATS in the following cases:

(A) development or procurement of new ATE that is not part of a designated DoD ATS Family unless it is a compliant acquisition of a COTS tester which has been validated by the AMB,

(B) reprocurement of existing ATE that is not part of a designated ATS Family,

(C) modification of existing ATE that is not part of a designated ATS Family when the modification adds capability to the ATS for testing additional UUTs,

(D) development or procurement of new TPSs for use on ATE that is not part of a designated ATS Family unless the target ATE is a COTS tester which has been validated by the AMB, and

(E) modification or rehost of an existing TPS for use with ATE that is not part of a designated ATS Family when the change/rehost adds significant capability to the ATS for testing additional UUTs, unless the target ATE is a COTS tester which has been validated by the AMB.

Any program office with an ATS requirement should always consult with their Service's ATS Leadership Office for assistance with the ATS selection process to identify their proposed ATS solution and determine whether it requires a deviation from the ATS policy. If the selection process culminates in a recommended solution for which a policy deviation would be required, the Service ATS Leadership Office will sponsor the proposed solution to the AMB for its review. If the AMB concurs that the proposed solution and policy deviation provides the best solution, it will make a recommendation to the appropriate decision authority.

Each Service will be responsible for establishing internal procedures for processing policy deviation requests to the Service ATS Leadership Office.

The office submitting each policy deviation request should address the cost, schedule and capability deficiencies of the DoD ATS families, relative to the requirement in question, that would justify a deviation from the policy. The primary objective is to ensure a rational and structured process is used in the evaluation and selection of the recommended ATS. The means used by the program office in addressing these considerations should be the same analyses used within the program's own execution of the ATS selection process.

If the PM determines there exists an obvious cost, schedule, or performance justification for not using a DoD ATS family member, an abbreviated policy deviation request stating this justification with supporting rationale may be coordinated with the Service ATS Leadership Office and staffed via the same process in an expedited manner.

Each policy deviation request will be evaluated by the AMB and the ATS ED from a DoD versus a specific weapon system program perspective. This is to ensure DoD's investment in ATS is leveraged within the Service and/or across DoD components. As part of this evaluation, the AMB will refer to the ATS Acquisition Database maintained by the Services to determine if there are other ATS acquisition initiatives within DoD that have similar technical and operational requirements such that a common solution might be pursued.

5.2 Commercial Off-the-Shelf (COTS) ATS Acquisition Validation Process

Commercial testers that are not part of designated ATS families may be acquired when a designated ATS family will not satisfy the requirement in the most cost beneficial manner. DoD ATS acquisition policy provides for an abbreviated and streamlined approval process that requires the weapon system program office to submit a Commercial Tester Acquisition Validation Request (CTAVR) to support the proposed acquisition of a commercial tester. This process is designed to validate that the proposed acquisition satisfies commercial criteria and, over the life cycle, is a more economical solution than an ATS family member.

6.0 ATS R&D Program

Historically, the individual Services have independently funded programs to develop new ATS test capabilities, often resulting in redundant investments. Most of the funds used to perform ATS R&D have originated in weapon system program offices. This duplication is a significant ATS cost driver in ATS development and acquisition processes among the Air Force, Army, Navy, Marine Corps and industry. In order to achieve the coordinated modernization of DoD ATS and to provide for the development of common hardware and software standards at critical hardware and software elements (an open systems approach), all DoD R&D resources should be linked into a coordinated and coherent DoD ATS program. Common test requirements can then be fulfilled using different test platforms, test development environments, data requirements, etc. Consolidating test requirements could provide DoD with additional purchasing power in the test industry and prevent duplicate expenditures on the development of similar technologies.

Accordingly, DoD ATS policy requires a shift in Service ATS R&D investments toward common goals. A cooperative ATS R&D plan and associated funding required for new product or capability development have been defined by the ATS ED and include the following goals:

1) Reducing the Total Ownership Cost of DoD ATS through the following:
   - Reducing operating and support costs
   - Eliminating redundant non-recurring costs.
   - Reducing the costs of ATS modernization.
   - Reducing the cost of TPS rehost.
2) Improving operational flexibility through interoperable ATS functions
3) Reducing logistics footprint
4) Improving diagnostics

6.1 Implementation

The ATS ED is employing a three-phased effort in developing and implementing the DoD ATS R&D program.

The first phase of the effort is continuing development of the ATS Technical Architecture Framework. Under the NxTest IPT, the ARI Working Group works with industry to define critical ATS elements and identify appropriate commercial specifications for implementing these elements. Critical element specifications are mandated for use in all ATS acquisitions via publication in the DoD Joint Technical Architecture (now renamed the Defense Information Standards Registry).

The second phase is demonstrating and applying these approved specifications to new ATS acquisitions. The NxTest IPT is leading the Agile Rapid Global Combat Support (ARGCS) Advance Concept Technology Demonstration program to demonstrate all the current testing technologies.

The third phase focuses on modernizing existing ATS under the ATS Technical Architecture Framework where it is cost-effective to do so.

7.0 ATS TPS Standardization

The ATS Test Program Set Standardization (TPSS) IPT is chartered to standardize requirements among the Services and make improvements in the acquisition process. The IPT has produced three documents:

1) MIL-PERF-32070 was developed to replace MIL-STD-2077 and define common TPS requirements across the Services,
2) A generic Request for Proposals for use by the services that includes a standard Statement of Work (SOW) or Statement of Objectives (SOO), and

3) A Handbook to provide information and guidance in the use of MIL-PERF-32070 as well as the SOW/SOO.

The TPSS IPT will also participate with the NxTest IPT and ARI WG in regards to TPS Transportability and Interoperability.

ATTACHMENT 1: PRINCIPAL POINTS OF CONTACT

The principal points of contact for the various levels of management in the ATS structure as well as the Services' lead personnel are listed below:

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